CONJUGATED LINOLEIC ACID ALKYL ESTERS IN FEEDSTUFFS AND FOOD

CLAIMS

What is claimed is:

1. An animal feed compounded from conventional ingredients in a ration typical for the species and age of an animal, together with conjugated linoleic acid alkyl esters in a biologically active concentration.

2. The animal feed of claim 1 wherein the concentration of conjugated linoleic acid alkyl esters in said feed is about 0.05 to 3.5 percent by weight.

3. The animal feed of claim 1 wherein said conjugated linoleic acid alkyl ester is comprised of at least 50 percent up to about 99 percent by weight of octadecanoic acid alkyl ester isomers selected from the group consisting of c9,t11-octadecanoic acid alkyl ester and t10,c12-octadecanoic acid alkyl ester, with less than 5 percent of 11,13-octadecanoic acid alkyl ester.

4. A conjugated linoleic acid alkyl ester for safe use as a feed, food ingredient, or food supplement obtained by direct isomerization of an unrefined linoleic acid comprising

a conjugated linoleic acid alkyl ester composition of isomers in one part comprising at least 50 percent by weight of ester isomers selected from the group consisting of c9,t11-octadecanoic acid alkyl ester and t10,c12-octadecanoic acid alkyl ester, and combinations thereof, and

in a second part comprising less than 5 percent by aggregate weight of ester isomers selected from the

group consisting of 8,10-octadecanoic acid alkyl esters, 11,13-octadecanoic acid alkyl esters, and trans,trans-octadecanoic acid alkyl esters, and

in a third part comprising in the range of 0.1 to 0.5 percent phosphatidyl residue remaining after isomerization of said unrefined linoleic acid.

5. The ester of claim 4 wherein said c9,t11-octadecanoic acid alkyl ester contained in said first composition part constitutes greater than 60 percent of the total isomers of octadecanoic acid alkyl esters.

6. The ester of claim 4 wherein said t10,c12-octadecanoic acid alkyl ester contained in said first composition part constitutes greater than 60 percent of the total isomers of octadecanoic acid alkyl esters.

7. A conjugated linoleic acid alkyl ester for use in domestic animal feed, food ingredients, or human dietary supplements made by the process comprising

providing an unrefined linoleic acid alkyl ester having phosphatidyl residue in the range of about 0.1 to about 0.5 percent

treating with an alkali alcoholate at low temperature in the presence of a monohydric low molecular weight alcohol to cause isomerization of at least 50 percent of the linoleic acid alkyl ester to conjugated linoleic alkyl ester at low temperature,

acidifying by addition of an aqueous acid, and

separating the linoleic conjugated linoleic acid alkyl ester from said aqueous acid without distillation.

8. The ester of claims 1-7 wherein said alkyl ester has an alkyl radical selected from the group consisting of methyl-, ethyl-, propyl-, isopropyl-, butyl-, and isobutyl-.